Integrated Flood Management – Challenges and Opportunities

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In the 90s many recommendations were produced by various water fora on the importance of reducing losses generated by flooding and flood disasters. The focus was restricted to a short period of time centered in an extreme flood event. Integrated Flood Management follows these recommendations with respect to the minimization of the losses of lives, but has a different approach regarding socio-economic aspects. Settling on flood plains has enormous advantages, as is evident from the very high densities of human settlement in for example, The Netherlands and Bangladesh and mainly from the high gross domestic product (GDP) per square kilometer in countries whose territories are composed mostly by flood plains, such as The Netherlands – which has the highest GDP per square kilometer in Europe.

Natural disasters cause much misery, especially in developing countries. Floods could become natural disaster but only few of them. Most of the floods are not disasters and even more most of the floods are not linked to any flooding. Therefore from the point of view of the hydrological science, flood is not a synonym of flooding or flood disasters but this difference is larger if we include socio-economic considerations. The vulnerability will be reduced through the sustainable development supported by the use of floodwater and flood plains. This is basically what Integrated Flood Management is promoting: to manage all floods and to have an holistic approach, which will prevent any perverse impact of focusing only in reducing negative aspects of extreme floods.

Traditionally, flood management has essentially been problem driven: usually after a severe flood a project would be quickly implemented; the problem and its solution seeming self-evident without giving any thought to the impact such solutions would have on upstream and downstream areas. Thus, flood management practices have largely focused on reducing flooding and reducing the susceptibility to flood damage through a variety of interventions. There are a number of different ways to categorize such flood management interventions. They can be structural and non-structural; physical and institutional; implemented before, during and after the flood; etc., and these categorizations overlap.

Sustainable development through Integrated Water Resources Management (IWRM) aims at the sustained improvement in the living conditions of all citizens in an environment characterized by equity, security and freedom of choice. It necessitates the integration of natural and human systems as well as land and water management. The available literature on IWRM, however, generally does not address the issues related to management of all floods aspects of water resources, and there is clearly a need to develop understanding on dealing with this aspect.

The concept of Integrated Flood Management was developed to promote sustainable development and poverty alleviation. The quote bellow shows one of the few examples of a policy that was in line with Integrated Flood Management. Some other policies, which are not in line with the policy that is being promoted, were also considered as lessons learnt.

“In the case of flooding, the appropriate economic objective is thus to maximize the efficiency of use of the catchment and not to minimize flood losses. Trends in national flood losses need not provide any guide to the success or failure of the national hazard management strategy

adopted: It can be easily shown that efficient flood management policy can be accompanied by a rise in both flood losses and the cost of flood management."

What did WMO do in the field of floods? Many activities were carried out by WMO in the field of Flood Forecasting, and these activities are continuing. Intensive involvement in flood forecasting activities started 50 years ago. Integrated Flood Management (IFM) includes flood forecasting and many other aspects.